

**REMARKS**

According to the Office Action, the reply filed on August 24, 2006 was not fully responsive because the "new cover sheet including the corrections to the assignee has not been received." Upon review of the file, Applicant respectfully submits that the new cover sheet was included with the previously filed reply. For convenience, however, another cover sheet including corrections to the assignee is included with the present reply.

If the Examiner wishes to resolve any issues by way of a telephone conference, the Examiner is kindly invited to contact the undersigned attorney at the telephone number indicated below.

Respectfully submitted,



Robert A. Van Someren  
Reg. No. 36,038

PO Box 2107  
Cypress, TX 77410-2107  
Voice: (281) 373-4369

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(12) **United States Patent**  
Askew

(10) Patent No.: **US 6,394,193 B1**  
(45) Date of Patent: **May 28, 2002**

(54) **DOWNHOLE ADJUSTABLE BENT HOUSING FOR DIRECTIONAL DRILLING**

(75) Inventor: **Warren Askew, Houston, TX (US)**

(73) Assignee: **Schlumberger Technology Corporation, Sugar Land, TX (US)**

(\*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.

(21) Appl. No.: **09/618,681**

(22) Filed: **Jul. 19, 2000**

(51) Int. Cl. <sup>7</sup> **E21B 7/04**

(52) U.S. Cl. **175/61; 175/73**

(58) Field of Search **175/61, 62, 73, 175/74, 269, 107, 317, 324, 75, 76; 166/50, 117.5**

(56) **References Cited**

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Primary Examiner—Robert E. Pezzuto

(74) Attorney, Agent, or Firm—J. L. Jennie Salazar

(57) **ABSTRACT**

The present invention provides a hydraulically actuated downhole adjustable bent housing for use in directional drilling of bore holes and wells that allows adjustment of the housing from aligned to a bent configuration without raising or lowering the drillstring. The present invention also provides a method of directionally drilling a bore hole or a well using an downhole adjustable bent housing that can be operated without raising or lowering the drillstring.

**17 Claims, 7 Drawing Sheets**

